Grass Valley

CASE STUDY

An AMPP-Powered Revolution in Live Production for the 2025 Asian Winter Games

Grass Valley® deployed a next-generation live production system for Korean broadcaster KBS using AMPP-based SRT Decoding, Alchemist® X for frame rate conversion, and the LiveTouch X slow-motion server system.

China's "Ice City" of Harbin played host to the ninth Asian Winter Games in February, as more than a thousand athletes from 34 countries came together to compete across 64 events in 11 sports.

The host broadcaster for the multisport event was AIS Play, in partnership with Sports Broadcasting (SAT). The International Broadcast Center (IBC) was located in the Main Media Center (MMC) in the Harbin International Conference, Exhibition and Sports Center, with broadcasting facilities for all events installed at the Network Quality Control (NQC) department.

HARBIN 2025
ASIAN WINTER GAMES

Remote Access Protocol

One of the main challenges of the operation for international broadcasters such as Korean national broadcaster KBS, was that it represented a departure from traditional satellite-based signal transmission — typically the standard for international sporting events of this scale — due to the complexities of securing direct satellite signals into and out of China.

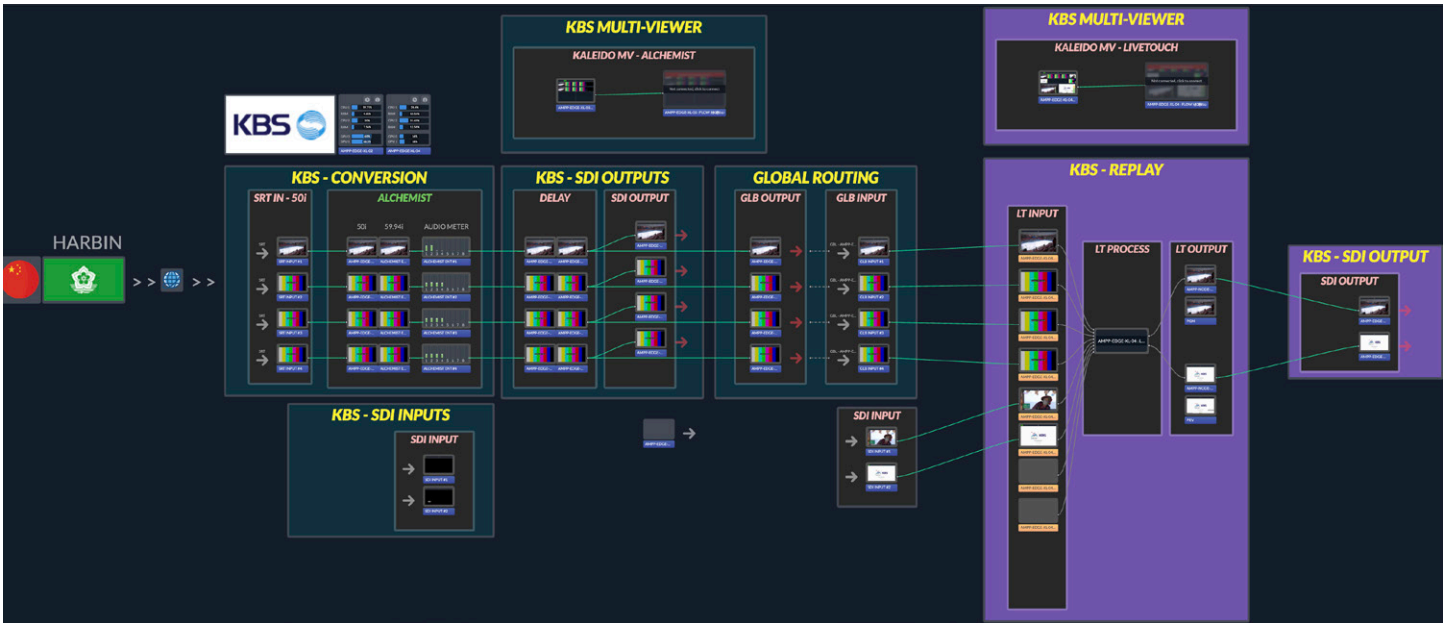
Instead, remote access points for international coverage were set up in Hong Kong and Singapore, which received signals from the IBC in Harbin using an SRT IP stream. The streams were subsequently transmitted from these locations in encoded H.264 video and MPEG audio (8ch) using the SRT protocol, with a TS bit rate of 15.7 Mb/s (1920x1080 50 Hz interlaced video).

The relay broadcast system comprising 12 international signals was built to facilitate switching between the dual signals being received from Hong Kong and Singapore. Therefore, in order to ensure stable and efficient operations for its own coverage, KBS, in partnership with integration partner SAMA Digital Media Solutions, built a new system based on Grass Valley's AMPP® solution to operate four of the 12 signals.

"We closely examined how AMPP compared to the incumbent third-party systems in use with regard to the convenience of operation, signal quality comparison verification, and workflow improvement," explains Seong-Hoon Kim, Senior Director at Korean Broadcast System. "AMPP was considered to be superior across all of those metrics as well as a variety of others, and would vastly improve the existing operation."

KBS

SAMA DMS Inc.



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Seong-Hoon Kim,
Senior Director at
Korean Broadcast System

The AMPP Effect

The AMPP system was built as an on-premises environment using two 2 RU AMPP Edge XL nodes (Nodes A and B).

AMPP Node A was installed in the NQC department and was configured to support four SRT decoders, four Grass Valley Alchemist Xs, four delays, and six HD-SDI inputs and outputs, including a "clean-cut" function in the multiviewer for the operator to easily monitor all signals.

AMPP Node B was installed as a test operation system in the studio control room (SCR) of the outside broadcast fleet and was configured to operate 8-channel LiveTouch Ingest and LiveTouch Operator Pro applications through the LiveTouch control panel.

"The signals used in LiveTouch Ingest are HD-SDI signals and global routing signals supplied by AMPP Node A, and a multiviewer app was also used to conveniently monitor the operating status," says Kim. "The highlights reels and playlists generated by the LiveTouch controller were output as HD-SDI signals and transmitted to the SCR where the live broadcast was being conducted."

The Kaleido™ X multiviewer is configured to monitor signals in various formats and check the processing delay of the signals, image quality, and audio channels. The "clean-cut" function enables seamless switching of source images, allowing operators to instantly move between PIP images and multiviewer images.

"The production team used a tablet to wirelessly monitor the AMPP dashboard to see the production status of the entire system, and were able to remotely access the Kaleido X multiviewer output to monitor the operational status from a remote location," explains Kim.

The dashboard itself also played a key role in optimizing the workflow for the KBS team, who praised its intuitive real-time observation capabilities in monitoring the signal flow of each processing unit.

Kim explains, "For the KBS operators, AMPP provided a highly efficient configuration for the broadcast that allowed them to operate using a smaller number of apps compared to legacy system setups. In addition, since installation of additional apps is possible in real time at any point, it was easy for the team to change the configuration or expand to various systems as they required, which they believed would be hugely beneficial in future productions."

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Revolutionary Changes

The Winter Games broadcast utilized Alchemist X to convert the 1920x1280 50 Hz video transmitted from the IBC Center to 1920x1080 59.94 Hz. Kim explains that the KBS operators were familiar with the conversion quality having already used the Alchemist Live legacy hardware, and that as a result of February's production week, "they confirmed that the quality provided by Alchemist is the best that can be used for sports production."

The test environment operated by AMPP Node B also confirmed a tantalizing glimpse of future sports production capabilities.

The test system was built to operate 8-channel LiveTouch ingest and the LiveTouch Operator Pro application through the hardware LiveTouch control panel, with highlights reels and playlists generated by the LiveTouch controller output as HD-SDI signals and transmitted to the live broadcast SCR. "The test system was a success and confirmed that the configuration can maximize the producer's capabilities, such as wirelessly operating the flow monitor from a tablet," says Kim. "It confirmed the possibility of designing an environment where the controller can be operated wirelessly by equipping it with an LTE network adapter, which is an exciting prospect for future sports broadcast productions."

The successful deployment showcases once again how Grass Valley is leading the media revolution and empowering content providers around the world with next-generation IP-based live production solutions.

Kim concludes: "All of those involved in operating AMPP while producing the 2025 Asian Winter Games are very excited about the revolutionary changes that the AMPP solution will bring to broadcast production."